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## PATENT ABSTRACTS OF JAPAN

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### (54) COMMUNICATION KARAOKE (ORCHESTRATION WITHOUT LYRIC) SYSTEM AND KARAOKE PLAYING TERMINAL

#### (57)Abstract:

PROBLEM TO BE SOLVED: To provide customer services while the utilization frequency of a communication channel is greatly reduced and to recommend the music reflecting a country wide utilization history.

SOLUTION: A host device 2 has a playing order summing information file. In the file a list of the music groups which are played after the music that is being played is presented and the playing frequencies of each music of the list are statistically summed up. The device 2 timely collects the playing order history data of each KARAOKE playing terminal 1 updates the file of the playing frequency of each music group list based on the data and timely transmits the updated file to each terminal 1. The terminal 1 refers to the file whenever the accompaniment music of each music is played extracts the prescribed number of musics in the order of the higher playing frequency based on the music group list corresponding to the music. Thus the name of the music and the selection number of the music are displayed on a display device to recommend as a next playing candidate.

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### CLAIMS

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#### [Claim(s)]

[Claim 1] Many karaoke playing terminals and host devices are the communication karaoke systems combined with a predetermined communications network and were provided with following requirement (1) - (4).

(1) Said each karaoke playing terminal records an order of a performance of the

accompaniment music as historical data about each musical piece.

(2) There is a performance order total information file in said host device. In this file a list of said musical piece groups performed by the next of the musical piece concerned is matched about said each musical piece and playing frequency of each of said musical piece on these each musical piece group list is totaled systematically.

(3) After this host device carries out concentration of said performance order historical data of each of said karaoke playing terminal to timely and updates said each playing frequency of each of said musical piece group list in said file based on these data it distributes this file to said each karaoke playing terminal timely.

(4) Whenever said each karaoke playing terminal performs said accompaniment music of each of said musical piece it refers to said file. Based on said musical piece group list corresponding to the musical piece concerned, said musical piece of a predetermined number is extracted in order with said high playing frequency and it displays with a display device with a track name and a song selection number that these musical pieces should be recommended as a next performance candidate.

[Claim 2] Many karaoke playing terminals and host devices are the communication karaoke systems combined with a predetermined communications network and were provided with following requirement (1) - (4).

(1) Said each karaoke playing terminal matches said ID of said customer who selected the song in this about each performed musical piece and records it as play history data while it obtains ID of a customer who actually uses the terminal concerned by a predetermined acquisition means.

(2) There are a song selection person attribution information file and a customer information file in said host device. This customer information file uses said customer ID as a key and is dealt with and customer data such as sex, said customer's age and address which were registered beforehand is described. In said song selection person attribution information file, a song selection person attribute number value is matched about said each musical piece and this song selection person attribute number value is systematically computed considering sex, age and regionality of said customer group which selected the song in the musical piece concerned, playing frequency etc. as a valuation basis.

(3) This host device carries out concentration of said play history data of each of said karaoke playing terminal to timely. Said customer data is collected by referring to said customer information file based on said corresponding customer ID for said each [in these data] musical piece of every. After updating said song selection person attribute number value of each musical piece in said song selection person attribution information file based on these customer data, this file is distributed to said each karaoke playing terminal timely.

(4) Whenever said each karaoke playing terminal performs accompaniment music of each of said musical piece it refers to said song selection person attribution information file. Said musical piece of a predetermined number is extracted to the musical piece concerned in order with said near song selection person attribute number value and it displays with a display device with a track name and a song

selection number that these musical pieces should be recommended as a next performance candidate.

[Claim 3] Many karaoke playing terminals and host devices are the communication karaoke systems combined with a predetermined communications network and were provided with following requirement (1) – (4).

(1) Said each karaoke playing terminal records each performed musical piece as play history data.

(2) There is a musical piece classification file classified by category in said host device. Each musical piece is classified according to a category according to this file and these categories are set up on the basis of predetermined attributes such as a key, a music genre, etc. of a scale at the time of a performance. Playing frequency is matched with each musical piece which belongs to these each category.

(3) After this host device carries out concentration of said play history data of each of said karaoke playing terminal to timely and updates said playing frequency of each of said musical piece in said file based on these data, it distributes this file to said each karaoke playing terminal timely.

(4) Whenever said each karaoke playing terminal performs accompaniment music of each of said musical piece, it refers to said file. Said musical piece of a predetermined number is extracted in order with said high playing frequency out of said category to which the musical piece concerned belongs and it displays with a display device with a track name and a song selection number that these musical pieces should be recommended as a next performance candidate.

[Claim 4] A karaoke playing terminal used in the karaoke system according to any one of claims 1 to 3.

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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] Especially this invention relates to the art of providing for a customer the service which utilized computer network resources about a communication karaoke system.

[0002]

[Description of the Prior Art] A host device and many karaoke playing terminals are combined with the public network as the communication karaoke system which has spread widely now is known well. By such a communication network, a host device distributes karaoke data to each karaoke playing terminal or carries out concentration of the information on a customer's utilization history from each karaoke playing terminal and is building the database. A customer's ID is used as a key and information including that name, date of birth, etc. is beforehand registered into this database.

[0003] These people utilized such a database and have invented various services

for customers.

It is under application now.

[0004]For example suppose that the registered customer used arbitrary karaoke playing terminals for the database. A karaoke playing terminal acquires a customer's ID at every the use of this. And this ID is used as a key and the database of a host device is accessed. A karaoke playing terminal downloads the aforementioned variety of information about the customer of relevance from a database. A proper message is created based on these information and from a display this is turned to the customer and displayed. If the date which used the karaoke playing terminal for example is a customer's birthday as this message it will say I congratulate you on Mr. OO and your birthday!

[0005]

[Problem(s) to be Solved by the Invention] That is in order to offer service using such a communication network whenever a customer uses a karaoke playing terminal it must communicate with a host device.

[0006] However if it was communicating one by one whenever the customer of days many used whole every day monthly time communication will become huge. According to this hugeness connection-fees gold will become immense. In addition time until communication at each time is materialized cannot be disregarded and has a problem which is in offer of the part service.

[0007] By the way another technical problem occurs besides such a technical problem. A customer determines music to look at it and sing an index book first in song selection. At this time the work selected from the musical pieces of tens of thousands of music may be troublesome. since searching although he would like to sing is troublesome as for something to sing -- for the time being -- goodness -- it may be easy if a musical piece with that right is recommended. This is also considered as customer-oriented service.

[0008] this invention is made in view of such a technical problem and comes out. There is the purpose in providing the communication karaoke system and karaoke playing terminal which can recommend the musical piece reflecting the nationwide customer's utilization history while it stops the frequency in use of \*\* substantially and can perform customer service.

[0009]

[Means for Solving the Problem] In order to attain said purpose in this invention many karaoke playing terminals and host devices are the communication karaoke systems combined with a predetermined communications network and were provided with following requirement (1) - (4).

[0010] (1) Said each karaoke playing terminal records an order of a performance of the accompaniment music as historical data about each musical piece.

(2) There is a performance order total information file in said host device. In this file a list of said musical piece groups performed by the next of the musical piece concerned is matched about said each musical piece and playing frequency of each

of said musical piece on these each musical piece group list is totaled systematically.

(3) After this host device carries out concentration of said performance order historical data of each of said karaoke playing terminal to timely and updates said each playing frequency of each of said musical piece group list in said file based on these data it distributes this file to said each karaoke playing terminal timely.

(4) Whenever said each karaoke playing terminal performs said accompaniment music of each of said musical piece it refers to said file. Based on said musical piece group list corresponding to the musical piece concerned, said musical piece of a predetermined number is extracted in order with said high playing frequency and it displays with a display device with a track name and a song selection number that these musical pieces should be recommended as a next performance candidate.

[0011] In order to attain said purpose in this invention, many karaoke playing terminals and host devices are the communication karaoke systems combined with a predetermined communications network and were provided with following requirement (1) – (4).

[0012] (1) Said each karaoke playing terminal matches said ID of said customer who selected the song in this about each performed musical piece and records it as play history data while it obtains ID of a customer who actually uses the terminal concerned by a predetermined acquisition means.

(2) There are a song selection person attribution information file and a customer information file in said host device. This customer information file uses said customer ID as a key and is dealt with and customer data such as sex, said customer's age, an address which were registered beforehand is described. In said song selection person attribution information file, a song selection person attribute number value is matched about said each musical piece and this song selection person attribute number value is systematically computed considering sex, age and regionality of said customer group which selected the song in the musical piece concerned, playing frequency etc. as a valuation basis.

(3) This host device carries out concentration of said play history data of each of said karaoke playing terminal to timely. Said customer data is collected by referring to said customer information file based on said corresponding customer ID for said each [ in these data ] musical piece of every. After updating said song selection person attribute number value of each musical piece in said song selection person attribution information file based on these customer data, this file is distributed to said each karaoke playing terminal timely.

(4) Whenever said each karaoke playing terminal performs accompaniment music of each of said musical piece it refers to said song selection person attribution information file. Said musical piece of a predetermined number is extracted to the musical piece concerned in order with said near song selection person attribute number value and it displays with a display device with a track name and a song selection number that these musical pieces should be recommended as a next performance candidate.

[0013] In order to attain said purpose furthermore in this invention, many karaoke

playing terminals and host devices are the communication karaoke systems combined with a predetermined communications network and were provided with following requirement (1) - (4).

[0014](1) Said each karaoke playing terminal records each performed musical piece as play history data.

(2) There is a musical piece classification file classified by category in said host device. Each musical piece is classified according to a category according to this file and these categories are set up on the basis of predetermined attributes such as a key, a music genre, etc. of a scale at the time of a performance. Playing frequency is matched with each musical piece which belongs to these each category.

(3) After this host device carries out concentration of said play history data of each of said karaoke playing terminal to timely and updates said playing frequency of each of said musical piece in said file based on these data it distributes this file to said each karaoke playing terminal timely.

(4) Whenever said each karaoke playing terminal performs accompaniment music of each of said musical piece it refers to said file. Said musical piece of a predetermined number is extracted in order with said high playing frequency out of said category to which the musical piece concerned belongs and it displays with a display device with a track name and a song selection number that these musical pieces should be recommended as a next performance candidate.

[0015] In addition in order to attain said purpose a karaoke playing terminal of this invention shall be used in a karaoke system mentioned above.

[0016]

[Embodiment of the Invention]

= Composition = of a system and a karaoke playing terminal = the system configuration of one example of this invention is shown in drawing 1. Many karaoke playing terminals 1 and host devices 2 which were developed nationally are combined with the communication line network 3. The host device 2 is a computer fairly highly efficient at high speed. In addition to the musical piece information database which stored the karaoke data of many musical pieces the database for 20 recommendation is built by the storage parts store of this host device 2. The various files mentioned later are stored in the database for these 20 recommendation. The central processing unit in the karaoke playing terminal 1 is a computer about [ general ] a personal computer. The computer network is constituted by the karaoke playing terminal 1 and the host device 2 of these large number.

[0017] Drawing 2 is made reference and the composition of the karaoke playing terminal 1 is explained. The central processing unit 4 is connected to the communication line network 3 via the modem 5. The karaoke data of many musical pieces distributed from the host device 2 is stored in the hard disk drive 6. The karaoke data distributed consists of MIDI-signal-ized karaoke accompaniment music data, lyrics data, included synchronization information with accompaniment, etc.

[0018] There is the navigational panel 7 for user interfaces containing a display for

indication and a keyboard in the main part of the karaoke playing terminal 1 and the remote control input machine 8 also attaches. The navigational panel 7 and the remote control input machine 8 are combined with the central processing unit 4 via the operation control part 19A karaoke user performs various operational inputssuch as song selectionwith the navigational panel 7 or the remote control input machine 8 of a main partand the response indication of the device to the contents of operation and operational input is displayed on the navigational panel 7.

[0019]Reproduction of a musical piece is performed by the following procedure under control of the central processing unit 4. The accompaniment music data and lyrics data of a song selection number which were specified are read from the hard disk drive 6. Accompaniment music data is inputted into the synthesizer 9 one by oneand is changed into an audio signal. This audio signal is outputted from the loudspeaker 11 through the audio amplifier part 10. Synchronizing with this audio outputthe central processing unit 4 changes lyrics data into a character string one by oneand writes it in Video RAM 13. The coloring which can comesimultaneously shows advance of music to a lyrics-characters sequence is processed. The contents of Video RAM 13 are displayed on the display device 15 by the display control part 14. The audio amplifier part 10 has a mixing function with the output of the microphone 12.

[0020]The moving image information for background videos etc. is reproduced by the CD-ROM player 17. The video control section 16 comprises a microcomputer which operates in response to instructions of the central processing unit 4and performs the selection process of the picture image data which should be reproduced. The picture image data which carried out selection decision is reproduced by the CD-ROM player 17. And restoration processing of the regenerative data compressed is performed and it transmits to the display control part 14. The display control part 14 compounds the video signal from the video control section 16and the lyrics-characters sequence of Video RAM 13and displays them on the display device 15.

[0021]The hard disk drive 6 can be replaced by other memory storage. The CD-ROM player 17 can also be replaced by the picture reproducer of otherssuch as a digital video disc. An audio signal is reproduced from these CD-ROM player 17 or its alternate device. It is also easy to establish the signal path which inputs this audio signal into the audio amplifier part 10 via the video control section 16 and with which the loudspeaker 11 is sounded.

[0022]= A ==== song selection candidate's recommendation = when the customer uses ==== each karaoke playing terminalthe musical piece which should be performed next may not be reserved. In such a case20 music recommended as a song selection candidate during the performance of a musical piece is extracted. After a performance is completedfrom a displaythese 20 recommendation is turned to a customer and displayed. Of courseeven when many are reservedit can display according to a customer's operational input.

[0023]Although the method of extraction these 20 recommendation is mentioned later in detailthere are three kinds. The 1st is the method of being based on the

tendency of an order to have performed the musical piece in all the karaoke playing terminals. The 2nd is the method of being based on the tendency of the customer who selected the song in each musical piece in all the karaoke playing terminals. The 3rd is the method of being based on the attribute of each musical piece.

[0024]which extraction method -- an imitation -- in order to exchange information required for the extraction it communicates periodically between each karaoke playing terminal and a host device. This communication is upload of the historical data about a performance or download of various files and is performed in the form unified with collection processing or message distribution processing of other information on a system. The troublesome thing of communicating one by one whenever a customer uses is not performed.

[0025]= The == 1st extraction method : the song selection number of the performed musical piece is recorded on the hard disk drive 6 of the recommendation 20 music == karaoke playing terminal 1 based on a song selection order tendency as historical data as the performance order is known.

The history is added whenever a customer selects a song and performs.

[0026]The host device 2 makes the performance order historical data of each karaoke playing terminal 1 upload. The host device 2 updates a performance order total information file based on much collected performance order historical data. In this file the list of musical piece groups performed by the next of that musical piece about each musical piece is matched. The playing frequency of each musical piece is totaled by this list. That is each performance order historical data were analyzed and what kind of musical piece was performed by the next of a certain musical piece or the number of times is list-ized. What packed this list about all the musical pieces and made it the matrix table as a music transition matrix is shown in drawing 3. the case where a song selection number performs the musical piece of m as the Tth performance (T is a natural number) in this table after starting the performance -- following (the T+1st time) -- being performed most shows that a song selection number is a musical piece of n. Thus the matrix table according to the playing frequency after starting a performance is created.

[0027]The host device 2 updates the performance order total information file which consists of such a matrix and downloads it to each karaoke playing terminal 1.

[0028]Whenever each karaoke playing terminal 1 performs the accompaniment music of each musical piece it reads a performance order total information file. And paying attention to the list corresponding to the musical piece under performance 20 musical pieces are extracted in the high order of playing frequency out of the musical piece group on this list. That the extracted musical piece group should be recommended as a next performance candidate as shown in drawing 4 it displays with a display device with a track name and a song selection number. This example is a case where a song selection number performs the musical piece of 412112 as the Tth performance after starting a performance adds a singer name to the high order of playing frequency and shows the following 20 performance

candidates in it. In this table as the turn of recommendation in a left end sequence was put in order from the top and the song selection number was told to the sequence of that right-hand and it told playing frequency to that right it is displayed.

[0029] In creating a matrix table various arrangements such as creating the matrix table according to a customer segment or extracting the whole number of music are possible.

[0030] = The ===== 2nd extraction method : the customer information file is created by the storage parts store of the recommendation 20 based on song selection person tendency music ===== < <customer information file >> host device 2. This file is the set of the record according to customer which arranged the information relevant to each customer. Since a customer is specified individually the identifier (it is called customer ID) has been set up. The record according to customer is created for every customer ID of the. The fundamental registration information item etc. which the customer returned voluntarily at the time of application such as a customer's name, sex, an address, a telephone number, a date of birth, a hobby, an occupation, office, family structure are included in this.

[0031] The song selection person attribution information file is also created by the storage parts store of the < <song selection person attribution information file >> host device 2. In this file the song selection person attribute number value is matched for every musical piece. This song selection person attribute number value is evaluated in the viewpoint what kind of attribute the customer with selected the song in each musical piece and sex, the age and regionality of the customer who selected the song, playing frequency etc. are computed as a valuation basis.

[0032] The method of computing this song selection person attribute number value is explained also including the operation by the side of the karaoke playing terminal 1. First by each karaoke playing terminal 1 side whenever it is used for a customer the customer ID is obtained. This acquiring method is mentioned later. And it records on the hard disk drive 6 by using the song selection number of the performed musical piece as play history data. At this time customer ID which selected the song in that musical piece is matched.

[0033] The host device 2 makes this play history data upload. The host device 2 updates the song selection person attribute number value of each musical piece after collecting the play history data of each karaoke playing terminal 1. That is intensive processing is carried out statistically and each song selection person's attribute is evaluated as analyzing and mentioning each play history data later from a viewpoint of following A-D about each musical piece.

[0034] Customer ID which selected the song in this about each musical piece is first extracted in analysis. This customer ID is used as a key and the record according to customer of relevance is read out of a customer information file. And the data of sex, age and an address is taken out and the number of a male customer, a below high school student customer and local customers is totaled. And the ratio to the total number of customers is computed. In addition playing

frequency also totals about each musical piece and the ratio to the maximum playing frequency in other musical pieces is also computed. Of course the number of customers total [ these ] and the maximum playing frequency also total.

[0035] (A) male ratio = -- the number of male customers / total number (B)

young-man ratio of customers = -- the number of below high school student

customers / total number (C) of customers local ratio = -- the number of local

customers / total number (D) of customers popular ratio = -- the maximum

playing frequency (\* each ratio is one or less positive number) in a musical piece besides total playing frequency/

Below the multi-dimension space which made the viewpoint of each A [ - ] and D each dimension is defined. This serves as space for positioning the tendency of a song selection person's attribute for every musical piece. Each ratio is dealt with as a numerical value (coordinate value) in the axis of coordinates of each dimension. Then as shown in the example of drawing 5 the point which consists of each coordinate value for every musical piece in 4-dimensional space becomes settled uniquely. This point turns into the point of expressing the tendency of a song selection person's attribute. The distance from the starting point is computed about the point of these each musical piece. The root sum square value of each coordinate value serves as the distance.

[0036] Thus the song selection person attribution information file which consists of distance of each updated musical piece is downloaded to each karaoke playing terminal 1.

[0037] Whenever each karaoke playing terminal 1 performs the accompaniment music of each musical piece it reads a song selection person attribution information file. And 20 musical piece groups with a near distance between music (the white in drawing 5 is round) are extracted in the near order to the musical piece (black dot in drawing 5) under performance. By point to point the distance between this music takes the difference of each coordinate value and is computed as a square root of the sum of the square of these difference.

[0038] That the extracted musical piece group should be recommended as a next performance candidate each karaoke playing terminal 1 is displayed with a display device with a track name and a song selection number as shown in drawing 6. When a song selection number performs the musical piece of 412112 this example adds a singer name to order with a small distance between music and shows the following 20 performance candidates in it. In this table as the turn of recommendation in a left end sequence was put in order from the top and the song selection number was told to the sequence of that right-hand and it told the distance between music to that right it is displayed. In this table what has a distance between music the same as that of the musical piece of 0 i.e. the music performed just before is displayed on the 1st. Of course the method of a display that the same music is not recommended can also be done.

[0039] There is a personal remote control which a customer other than the remote control for stores attached to each karaoke playing terminal 1 possesses respectively in << acquisition method [ of customer ID in the terminal 1 ]

>> remote control input machine 8. This personal remote control generates an ID code which is different for every set in an output signal. The ID code and the customer who possesses are matched. The ID code of a personal remote control can be used as customer ID by this.

[0040] That is in a certain karaoke playing terminal 1 a certain customer performs song selection operation with his own personal remote control. Then the central processing unit 4 or the operation control part 19 of the karaoke playing terminal 1 analyzes a remote control input signal and recognizes customer ID.

[0041] Various methods can be considered also to others such as publishing ID cards such as a magnetic card which recorded customer ID on each customer and recognizing customer ID covering the ID card of the customer who came to the store over a reading machine.

[0042] = The 3rd extraction method : the song selection number of the performed musical piece is recorded on the hard disk drive 6 of the recommendation 20 music karaoke playing terminal 1 based on a musical piece attribute as historical data. The history is added whenever a customer selects a song and performs. The host device 2 makes the play history data of each karaoke playing terminal 1 upload.

[0043] The musical piece classification file classified by category is created by the storage parts store of the host device 2. The song selection number of each musical piece is classified according to the category according to this file. These categories are set up on the basis of the predetermined attribute which a musical piece has. Following A – E etc. are mentioned as this attribute.

[0044]

(\*\*) Key (A/A"/A"Am"/A"Am"D" /etc.)

(\*\*) Music genre (enka/pop)

(\*\*) Index book genre (a duet / South Korean song / war song / folk song / medley / Western music /etc.)

(\*\*) Background image genre (Japanese emotion / city night and rain /etc.)

Each attribute A – E are classified into plurality. For example in the key of (a) it is classified that it is also at various kinds of keys such as A and A." Many categories are made by every one division being together put suitably from each attribute A – E.

[0045] Playing frequency is matched with each musical piece which belongs to each category. This playing frequency is updated by totaling the playing frequency for every musical piece based on much collected play history data. The host device 2 downloads the updated musical piece classification file classified by category to each karaoke playing terminal 1.

[0046] Whenever each karaoke playing terminal 1 performs the accompaniment music of each musical piece it reads the musical piece classification file classified by category. And 20 musical pieces are extracted in the high order of playing frequency out of the category to which the musical piece under performance belongs. It displays with a display device with a track name and a song selection number as well as the case where drawing 4 and drawing 6 show that the

extracted musical piece group should be recommended as a next performance candidate.

[0047]= ====others = the playing frequency used in the ==== 1-3rd extraction methods is employable suitably if the degree of the relative performance not only to the actual number of times but other musical pieces is shown.

[0048]In extracting the musical piece to recommend it may enable it to choose either of each 1-3rd extraction methods by a customer's operational input and the staff of the store can set it as either.

[0049]

[Effect of the Invention]The communications processing between a host device and each karaoke playing terminal is a host device's carrying out concentration of the historical data of a performance from each karaoke playing terminal or distributing various files to each karaoke playing terminal.

[0050]A karaoke playing terminal does not take out such communications processing from a host device like the conventional service at every use of data peculiar to each customer. For this reason it can carry out to proper timing with sufficient convenience on employment. For example although communication for several user minutes had to be performed one by one with the conventional service every day it also becomes possible in this invention to manage about one communication in one week or one month.

[0051]Therefore the frequency in use of a communication line is stopped very small and customer service can be performed. For this reason connection-fees gold can be made to reduce substantially. Since the karaoke playing terminal does not need to communicate with a host device one by one in the case of execution of service service can be provided promptly.

[0052]The customer can select a song by seeing the displayed recommendation musical piece without seldom wavering. That is the troublesome time and effort of looking at an index book and selecting a song from a huge number of musical pieces can be saved.

[0053]Song selection can be urged by displaying a recommendation musical piece. For this reason it can control that it means having played with as without using a karaoke playing terminal for there being a customer. At a store which is charged whenever it performs it can contribute to a profit.

[0054]In this invention the performance candidate who made the nationwide customer's song selection history reflect can be recommended.

[0055]If it is in the invention concerning especially claim 1 the musical piece recommended according to the statistical data of the history of the performance order collected from each karaoke playing terminal is displayed from a display. Therefore a song can be selected in a musical piece in the order often sung.

[0056]If it is in the invention concerning especially claim 2 sex the age and regionality of the customer group which selected the song in this playing frequency etc. are evaluated as a valuation basis about each musical piece. And a near numerical musical piece is displayed on the near order from a display about the musical piece under performance. Therefore a song can be selected in the

musical piece which people with the taste similar to the customer who selected the song in the musical piece under performance have often chosen.

[0057] If it is in the invention concerning especially claim 3 the category which made the valuation basis attributes such as a music genre which a musical piece has provided and each musical piece is classified according to the category. And the musical piece of the category same about the musical piece under performance is displayed on order with high playing frequency from a display. Therefore a song can be selected in what the musical piece of the atmosphere similar to the musical piece under performance may be sufficient as and is sung.

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## DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is a line block diagram of the communication karaoke system by one example of this invention.

[Drawing 2] It is a block diagram of the karaoke playing terminal by one example of this invention.

[Drawing 3] It is a schematic diagram showing the music transition matrix for extracting the musical piece by one example of this invention to recommend.

[Drawing 4] It is a chart showing the list of recommendation musical pieces displayed on the display by one example of this invention.

[Drawing 5] It is a key map showing the 4-dimensional space for positioning the tendency of the attribute of the song selection person by one example of this invention for every musical piece.

[Drawing 6] It is a chart showing the list of recommendation musical pieces displayed on the display by one example of this invention.

[Description of Notations]

- 1 Karaoke playing terminal
- 2 Host device
- 3 Communication line network
- 4 Central processing unit
- 5 Modem
- 6 Hard disk drive
- 7 Navigational panel
- 8 Remote control input machine
- 9 Synthesizer
- 10 Audio amplifier part
- 11 Loudspeaker
- 12 Microphone
- 13 Video RAM
- 14 Display control part
- 15 Display device
- 16 Video control section

17 CD-ROM player

19 Operation control part

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